

Surfaces: an interdisciplinary project to understand and enhance health in the vulnerable rainforests of Papua New Guinea

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Summary

Papua New Guinea's (PNG) globally important rainforests are threatened by logging, and its health-related Sustainable Development Goal (SDG) indicators are worse than all but two countries outside sub-Saharan Africa.¹

We are mapping evidence on integrated health and conservation projects worldwide, and aim to provide a practical example in PNG's rainforests, focusing first on neglected tropical skin diseases. We seek advice and suggestions of collaboration from others in the Planetary Health community.

1. Introduction

Sustainable development requires supporting good health (SDG 3) and protecting life on land (SDG 15). New Guinea has the third largest tropical rainforest on Earth.² However, one quarter of the forests of PNG (New Guinea's eastern half) have been cleared or degraded, nearly half by commercial loggers servicing global commodity demands.^{3,4}

As clans own or claim 97% of PNG as communal property, they can be a major force for conservation.³ Yet to some remote communities with low levels of health provision, SDGs on health and biodiversity can seem in conflict. Logging companies' offer of roads and income can decrease remoteness from health services, making desire for health a driver for forest destruction and erosion of health related ecosystem services. Conservation success in PNG thus requires synergies be developed with delivery of other SDGs, particularly those pertaining to health.

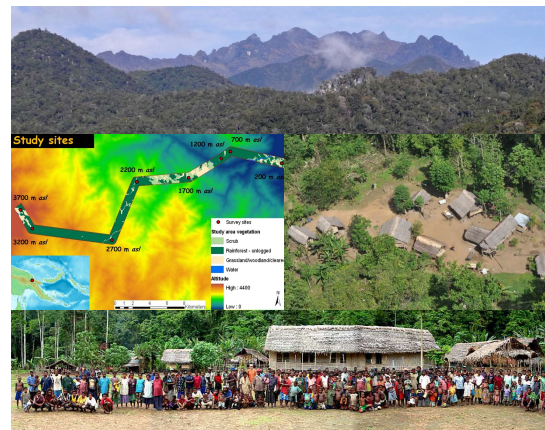
2. Sites and partner communities

Wanang

We have a long term collaboration with nine lowland rainforest clans (c.300 people) who chose to preserve their 10,000 hectare forest when all surrounding communities allowed logging.^{5,6} Villagers have requested health services in the next phase of our work.

Mount Wilhelm

Similar collaborations are being developed along a 41km altitudinal transect up Mount Wilhelm (4,509m). This is home to clans totalling c.6000 people, and comprises rainforest ecosystems from lowland to alpine.⁷



Mount Wilhelm (top) and the altitudinal transect (left). Wanang village (right) and its community (bottom).

3. Methods

We are mapping and piloting biological, anthropological, and medical methods to address SDGs on health and biodiversity, focusing first on **scabies** and **fungal** diseases.

Stage 1:

- clinical examinations and rapid anthropological assessments of medical needs in our partner communities, and a survey of skin disease
- systematic mapping of evidence on integrated conservation and health programmes
- a study of how the Wanang conservation agreement developed, based on interviews with those involved.

Why skin?

- Medical neglect, especially in remote areas, has left the four most common causes of health problems in PNG unchanged for 15 years, the third being skin disease.⁸
- Scabies is a problem across Oceania,⁹ and prevalence has been recorded >70% (all age groups) in PNG.¹⁰ The intensely itchy, parasitic condition causes distress and stigma. Secondary infections often follow in developing countries and can lead to sepsis, impaired kidney function and rheumatic heart disease.^{11,12}
- Fungal infections are common at Wanang, and can lead to chronic and life-threatening conditions.
- Skin disease Mass Drug Administrations¹³ can be carried out by mobile patrols to remote PNG communities.



4. Future plans

Stage 2 (pending funding):

- mobile health interventions
- skin disease Mass Drug Administration
- expansion of protected areas
- research on health impacts of PNG logging/conservation.

References

Poster with references: sro.sussex.ac.uk/67423.
Images: logging (left), RAN; skin disease at Wanang (above, and left), Konecna M, University of South Bohemia, CZ.

Sussex Sustainability Research Programme

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